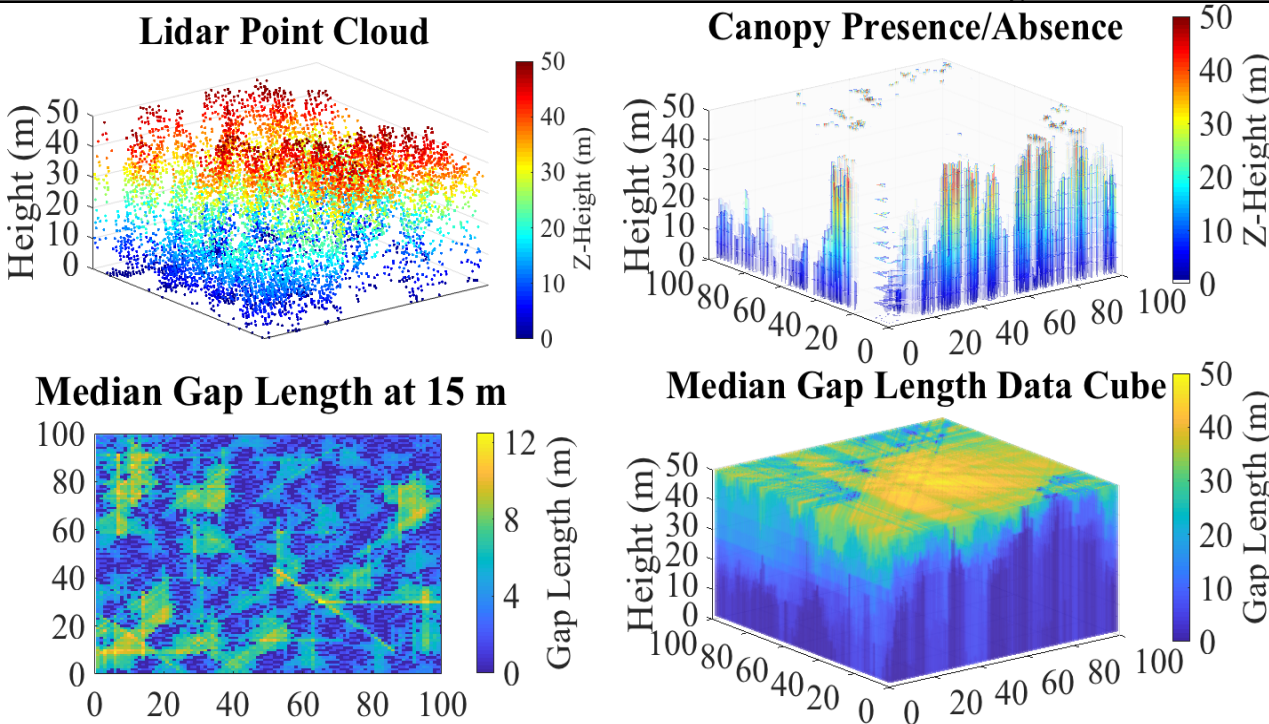
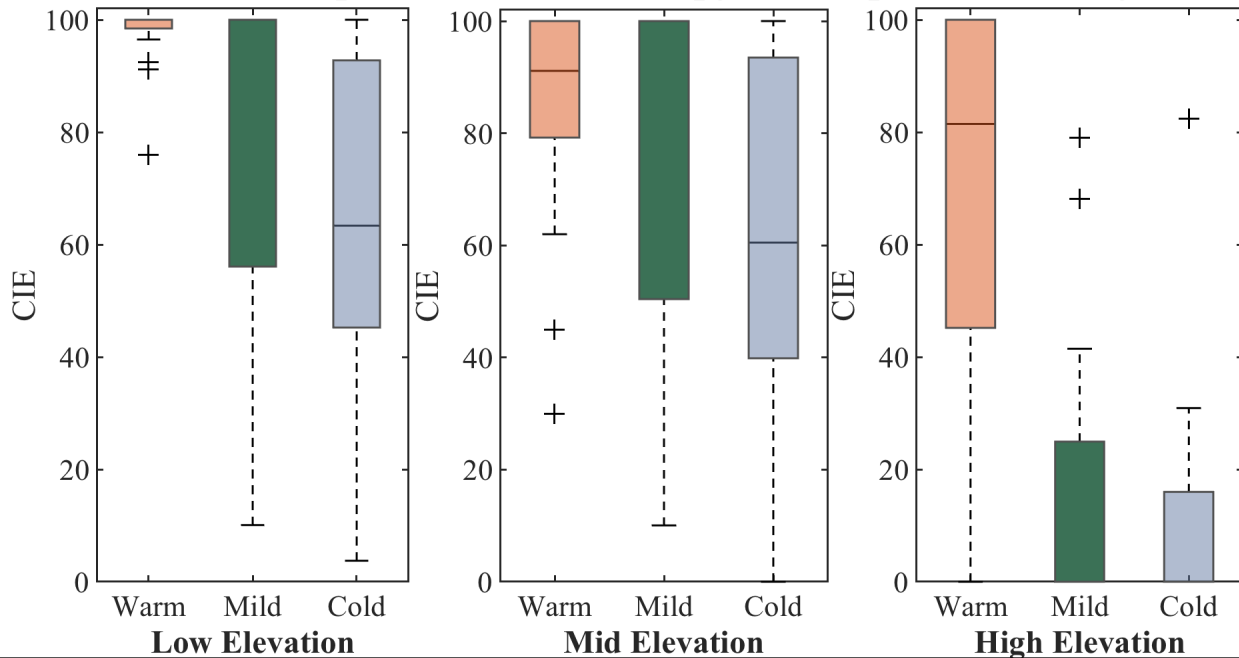


## Air Temperature based Canopy Interception Efficiency



We developed a simple canopy snow interception model for a maritime environment from a power law relationship between **event size (P)**, **event air temperature ( $T_{air}$ )** and a novel **3-D canopy structure metric ( $G_Z$ )**.

- $$G_Z = \frac{\Delta \text{Median Gap Length}}{\Delta z \text{Height}}$$

- $$\zeta = 0.04T_{air} - 0.75G_Z + 1.5$$

- $$I_{Roth} = P^\zeta$$

Results from a 6-year study and 197 qualifying snowfall events suggest:

1. Canopy structure metrics alone can not adequately predict canopy interception
2. Event based meteorological variables P and  $T_{air}$  control canopy interception *magnitude* while forest structure sets the *capacity* of interception